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WASHINGTON, DC 20006

EXAMINER

NGUYEN, FRANCIS N

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 01/22/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/903,591

Applicant(s)

KISHIDA ET AL.

Examiner

FRANCIS NGUYEN

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-8 and 11-15 is/are rejected.
- 7) ☐ Claim(s) 9, 10 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because of incorrect word "interfacce"( figure 1) . A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 2 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kamakura et al. ( US Patent 6,172,657).

As to **claim 1**, Kamakura et al. discloses a computer system comprising:

a wearable computer ( **control circuit unit 105 fixed to the back of the operator**, column 5, lines 5-18); and

a wearable display device provided independently of said wearable computer ( **electromagnetic waves for transmission of signals between control circuit unit and display unit**, column 15, lines 56-58, figure 13), wherein said wearable display device includes:

Art Unit: 2674

a display monitor ( **display unit 103, directly attached to the head of the operator,** column 5, lines 2-4), and

a display controller which controls said display monitor ( **VGA controller 404,** column 8, lines 25-27) and draws in a memory display data to be displayed ( **VGA controller 404 is controller for controlling display device via display unit driving circuit 407,** column 8, lines 34-35, column 5, lines 64-67) on said display monitor based on drawing command information from said wearable computer ( **display of piping system on display unit 103 and electronic information give various information to the operator ,** column 11, lines 2-10, also see column 17, lines 39-45, **operator uses instruction ring 606 to select menu option, and a predetermined operation is carried out,** column 17, lines 46-51 ) .

As to **claim 2**, the system according to claim 1, wherein said wearable display device has a headset-mounted casing wearable on a person's head ( **casing shown in figure 1b**).

As to **claim 12**, Kamakura et al. discloses a headset-mounted display device ( figure 1b) constituting a computer system together with a computer ( **control circuit unit 105b,** column 12, line 62), said headset-mounted display device comprising:

a display monitor ( **display unit 103, directly attached to the head of the operator,** column 5, lines 2-4), and

a display controller which controls said display monitor ( **VGA controller 404,** column 8, lines 25-27) and draws in a memory display data to be displayed ( **VGA controller 404 is**

Art Unit: 2674

**controller for controlling display device via display unit driving circuit 407**, column 8, lines 34-35, column 5, lines 64-67) on said display monitor based on drawing command information from said computer ( **display of piping system on display unit 103 and electronic information give various information to the operator** , column 11, lines 2-10, also see column 17, lines 39-45, **operator uses instruction ring 606 to select menu option, and a predetermined operation is carried out**, column 17, lines 46-51 ) by radio (**electromagnetic waves used for transmission of signals**, column 12, line 66 through column 13, line 2).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-8, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamakura et al. in view of Nappi et al. ( U.S. Patent 5,751,260).

As to **claim 3**, Kamakura et al. does teach a microphone 108 but fails to expressly teach said headset-mounted casing provided with a speaker, said wearable display device further include a sound circuit. Nappi et al. teaches a system for interfacing between a user and a computer ( see abstract, **portable computer carried using a backpack**, column 2, lines 57-60) comprising **audio input and output** ( earphone 14, column 4, lines 55-56) **in connection with microvideo display** ( column 4, lines 46-48), **speech generation unit 42, voice recognition unit 44** ( figure 6, column 6, lines 60-64). **It would have been obvious to a person of ordinary skill in the art**

Art Unit: 2674

at the time of the invention to utilize the apparatus of Kamakura et al. then include an earphone in the headset-mounted display and a speech generation unit in the display device as taught by Nappi et al., to obtain the apparatus Kamakura et al. modified by Nappi et al. ( column 6, lines 55-59) because it would result in transmission of voice prompts to the user, complete portable computer interaction as taught by Nappi et al. ( column 6, lines 16-17, line 62).

As to **claim 4**, the system according to claim 3, wherein

said wearable computer and said wearable display device each include a communication interface for radio communication with each other ( note Kamakura et al. modified by Nappi et al. discloses **electromagnetic waves between display unit 103 and control circuit unit 105b** , see Kamakura et al, column 12, line 66 through column 13, line 2) and also **radio transceiver 52** , see Nappi et al., figure 6 and note, if wearable computer comprises the aforementioned radio transceiver as taught , evidently the wearable display device also comprises a radio transceiver in order for both to communicate by radio as mentioned above); and said sound circuit generates said voice signal based on data transmitted from said wearable computer ( Nappi et al. teaches sound generation unit for generating voice prompts to a user, see nappi et al., column 4, lines 50-52) by radio ( **Nappi et al. teaches radio transceiver as mentioned above in claim 3**).

As to **claim 5**, the system according to claim 3, wherein said sound circuit includes :

a sound source which generates a digital voice signal based on data from said wearable computer ( audio control system, **speech generator** , column 4, lines 46-48); and a converter

Art Unit: 2674

which converts the digital voice signal obtained from said sound source to an analog signal ( note Nappi et al. teaches **earphone 14**, column 4, line 55, this implies an analog signal being converted from speech generation unit which takes commands from microprocessor 50, see Nappi et al. figure 6, this implies a digital voice signal being converted to analog signal via earphone 14) .

As to **claim 6**, the system according to claim 3, wherein :

said wearable computer is provided with a sound source (audio control system, **speech generator** , column 4, lines 46-48) ; and

said sound circuit includes a converter which converts a digital voice signal from a sound source of said wearable computer to an analog voice signal (note Nappi et al. teaches **earphone 14**, column 4, line 55, this implies an analog signal being converted from speech generation unit which takes commands from microprocessor 50, see Nappi et al. figure 6, this implies a digital voice signal being converted to analog signal via earphone 14) .

As to **claim 7**, the system according to claim 2, wherein:

said headset-mounted casing is provided a microphone ( Kamakura et al. does teach a microphone 108, column 5, lines 52-57) but fails to expressly teach a voice recognition unit, a trasmission unit which transmits a command to said wearable computer. Nappi et al. teaches a system for interfacing between a user and a computer ( see abstract, **portable computer carried using a backpack**, column 2, lines 57-60) comprising **audio input and output** ( earphone 14, column 4, lines 55-56) **in connection with microvideo display** ( column 4, lines 46-48), **voice recognition unit 44** ( figure 6, column 6, lines 60-64), **signal from microphone is translated into intelligent commands**( column 4, lines 64-67), **radio transceiver 52**

Art Unit: 2674

transmitting data processed by microprocessor 50 (figure 6) . It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Kamakura et al. then include an audio control system with speech synthesizer, a voice recognition unit , radio transceiver in the display device as taught by Nappi et al., to obtain the apparatus Kamakura et al. modified by Nappi et al. ( column 6, lines 55-59) because it would result in complete portable computer interaction as taught by Nappi et al. ( column 6, lines 16-17), more direct communication to computer via speech.

As to claim 8, the system according to claim 2, Kamakura et al. fails to expressly teach a converting unit which converts a voice signal input from said microphone to a digital signal, a transmitting unit which transmits the digital signal to said wearable computer. Nappi et al. teaches a system for interfacing between a user and a computer ( see abstract, portable computer carried using a backpack, column 2, lines 57-60) comprising audio input and output ( earphone 14, column 4, lines 55-56) in connection with microvideo display ( column 4, lines 46-48), voice recognition unit 44 ( figure 6, column 6, lines 60-64), signal from microphone is translated into intelligent commands( column 4, lines 64-67), radio transceiver 52 transmitting data processed by microprocessor 50 (figure 6) . It would have been obvious to a person of ordinary skill in the art to utilize the apparatus of Kamakura et al. then include an audio control system with speech synthesizer, a voice recognition unit , radio transceiver in the display device as taught by Nappi et al., to obtain the apparatus Kamakura et al. modified by Nappi et al. ( column 6, lines 55-59) because it



Art Unit: 2674

would result in complete portable computer interaction as taught by Nappi et al. ( column 6, lines 16-17), more direct communication to computer via speech.

As to **claim 13**, Kamakura et al. fails to expressly teach a speaker and a sound circuit. Nappi et al. teaches a system for interfacing between a user and a computer ( see abstract, **portable computer carried using a backpack**, column 2, lines 57-60) comprising **audio input and output ( earphone 14**, column 4, lines 55-56) **in connection with microvideo display ( column 4, lines 46-48)**, **speech generation unit 42**, **voice recognition unit 44 ( figure 6, column 6, lines 60-64)**. It would have been obvious to a person of ordinary skill in the art to utilize the apparatus of Kamakura et al. then include an earphone in the headset-mounted display and a speech generation unit as taught by Nappi et al., to obtain the apparatus Kamakura et al. modified by Nappi et al. ( column 6, lines 55-59) because it would result in transmission of voice prompts to the user, complete portable computer interaction as taught by Nappi et al. ( column 6, lines 16-17, line 62).

As to **claim 14**, Kamakura et al. teaches a microphone but fails to expressly teach a voice recognition unit and a transmitting unit. Nappi et al. teaches a system for interfacing between a user and a computer ( see abstract, **portable computer carried using a backpack**, column 2, lines 57-60) comprising **audio input and output ( earphone 14**, column 4, lines 55-56) **in connection with microvideo display ( column 4, lines 46-48)**, **voice recognition unit 44 ( figure 6, column 6, lines 60-64)**, **signal from microphone is translated into intelligent commands( column 4, lines 64-67)**, **radio transceiver 52 transmitting data processed by microprocessor 50 (figure 6)** . It would have been obvious to a person of ordinary skill in

Art Unit: 2674

the art at the time of the invention to utilize the apparatus of Kamakura et al. then include an audio control system with speech synthesizer, a voice recognition unit, radio transceiver as taught by Nappi et al., to obtain the apparatus Kamakura et al. modified by Nappi et al. ( column 6, lines 55-59) because it would result in complete portable computer interaction as taught by Nappi et al. ( column 6, lines 16-17), more direct communication to computer via speech.

As to claim 15, Kamakura et al. fails to expressly teach a converting unit which converts a voice signal input from said microphone to a digital signal, a transmitting unit which transmits the digital signal to said wearable computer. Nappi et al. teaches a system for interfacing between a user and a computer ( see abstract, portable computer carried using a backpack, column 2, lines 57-60) comprising audio input and output ( earphone 14, column 4, lines 55-56) in connection with microvideo display ( column 4, lines 46-48), voice recognition unit 44 ( figure 6, column 6, lines 60-64), signal from microphone is translated into intelligent commands( column 4, lines 64-67), radio transceiver 52 transmitting data processed by microprocessor 50 (figure 6) . It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Kamakura et al. then include an audio control system with speech synthesizer, a voice recognition unit, radio transceiver in the display device as taught by Nappi et al., to obtain the apparatus Kamakura et al. modified by Nappi et al. ( column 6, lines 55-59) because it would result in complete portable computer interaction as taught by Nappi et al. ( column 6, lines 16-17), more direct communication to computer via speech.

Art Unit: 2674

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamakura et al. in view of Behr et al. ( U.S. Patent 6,104,316).

As to claim 11, Kamakura et al. discloses a computer system comprising:

a wearable computer ( **control circuit unit 105 fixed to the back of the operator,** column 5, lines 5-18); and

a wearable display device provided independently of said wearable computer ( **electromagnetic waves for transmission of signals between control circuit unit and display unit,** column 15, lines 56-58, figure 13), wherein

said wearable computer and said wearable display device communicate via radio ( **electromagnetic waves other than infrared rays used for transmission of signals between display unit 103 and control circuit unit 105 ,** column 12, line 66 through column 13, line 2), and said wearable display device includes:

a display monitor ( **display unit 103, directly attached to the head of the operator,** column 5, lines 2-4), and

a display controller which controls said display monitor ( **VGA controller 404,** column 8, lines 25-27) and draws in a memory display data to be displayed ( **VGA controller 404 is controller for controlling display device via display unit driving circuit 407,** column 8, lines 34-35, column 5, lines 64-67) on said display monitor based on drawing command information from said wearable computer ( **display of piping system on display unit 103 and electronic information give various information to the operator ,** column 11, lines 2-10, also see column 17, lines 39-45, **operator uses instruction ring 606 to select menu option, and a predetermined operation is carried out,** column 17, lines 46-51 ).

Art Unit: 2674

However, Kamakura et al. fails to expressly teach said wearable computer and said wearable display device each include a communication interface for radio communication with each other. Behr et al. teaches a base computer 12 having RF communication interface 76 ( shown in figure 1) and a mobile unit 20 with display device 60 having a RF communication interface 50 ( shown in figure 1). **It would have been obvious to a person of ordinary skill in the art to utilize the apparatus of Kamakura et al. then modify the control circuit unit 105 and the display unit 103 to include each a RF communication interface as taught by Behr et al to obtain the apparatus Kamakura et al. modified by Behr et al., because it would provide a more effective wireless communication between devices.**

***Allowable Subject Matter***

7. Claims 9-10, 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claims 9-10 and 16, none of prior art teaches a computer system comprising a wearable computer and a wearable display device which further includes a visual line detecting unit which detects a user's visual line position, and a controlling unit which controls an image capturing direction of said camera based on a detection result of said visual line detecting unit so that said camera can capture an image corresponding to said user's visual line position.

### CONCLUSION

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent	6,236,969	Ruppert et al.
US Patent	6,108,197	Janik
US Patent	6,466,232	Newell et al.
US Patent	5,999,952	Jenkins et al.
US Patent	5,572,401	Carroll
US Patent	6,047,301	Bjorklund et al.
US Patent	6,424,321	Ronzani et al.

Reference Ruppert et al. is made of record as it discloses a wearable telecommunications apparatus with voice/speech control features.

Reference Janik is made of record as it discloses a flexible wearable computer having a wireless communication .

Reference Newell et al. is made of record as it discloses a wearable computer having a microphone and a speaker.

Reference Jenkins et al. is made of record as it discloses a core computer unit having a sound card.

Reference Carroll is made of record as it discloses a wearable personal computer .

Reference Bjorklund et al. is made of record as it discloses a wearable computer communicating with its display device via an optical link.

Art Unit: 2674

Reference Ronzani et al. is made of record as it discloses a a head-mounted matrix display having earphones.

**9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis Nguyen ( 8:00AM to 4:30PM) whose telephone number is (703) 308-8858.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

***Any response to this action should be mailed to:***

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 ( for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington,

VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Application/Control Number: 09/903,591

Page 14

Art Unit: 2674

FRANCIS NGUYEN

Examiner

Art Unit 2674

A handwritten signature in black ink, appearing to read 'Francis Nguyen', written in a cursive style.

January 18th, 2002